PB -218 274

# METHODS OF MAKING SANITATION RATINGS OF MILKSHEDS

Public Health Service
Washington, D.C.

1958

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# METHODS OF MAKING SANITATION RATINGS of MILKSHEDS

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U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service

Bureau of State Services
Division of Engineering Services
Milk and Food Program

Public Health Service Publication No. 678

## PREFACE

No matter how comprehensive milk sanitation regulations may be, they afford protection to the consuming public only to the extent to which their provisions are followed in the production, processing, and distribution of milk and milk products.

To measure objectively the extent to which communities adopting the *Milk Ordinance and Code Recommended by the United States Public Health Service* were enforcing its provisions, the Service, in 1938, developed a method for making sanitation ratings of milksheds. A majority of State health departments have adopted this rating method to evaluate periodically the status of local milk sanitation programs and the progress being made in improving the sanitary quality of market milk supplies.

The results of evaluations made by this rating method have stimulated and encouraged local health authorities toward greater effort and have enabled the dairy industry to carry on more effective campaigns for increased consumption by focusing attention to the desirability of quality milk and milk products. Such evaluations have also provided citizens and local officials with a basis for judging whether they have been receiving a proper return for their milk sanitation appropriations, and whether such appropriations are adequate.

Among other advantages, the rating method has enabled State and local agencies to obtain authoritative information on the sanitary quality of milk imported from other jurisdictions, and thus has facilitated the movement of fluid milk and fluid milk products of high sanitary quality in both intrastate and interstate commerce. An increasing number of communities are willing to accept milk from outside their jurisdiction without making inspections at the source when such milk has been awarded a milk sanitation compliance rating equal to, or higher than, that of the local supply, as is provided for in the current edition of the *Milk Ordinance and Code*. To facilitate the interstate acceptance of milk on a basis of sanitation compliance ratings, the Public Health Service, at the request of the Association of State and Territorial Health Officers and the National Conference on Interstate Milk Shipments, cooperates with the States in a voluntary program for the certification of interstate milk shippers. Lists of interstate milk shippers, together with the ratings of their supplies, as certified by the States, are published quarterly by the

Public Health Service for use by health authorities of milk importing jurisdictions.

The procedures described in this publication are a revision of the original rating method developed by Frank, Fuchs, and Dashiell (Reprint No. 1970; Public Health Reports, vol. 53, (32): 1386–99 (Aug. 12, 1938)), and retain those features that have contributed to its wide use. This revision was necessary in order to adjust the rating method to the provisions of the *Milk Ordinance and Code—1953 Recommendations of the Public Health Service*, and provide procedures more adaptable to the rating of interstate supplies of fluid milk and milk products. Since the 1953 edition of the *Milk Ordinance and Code* is a compulsory pasteurization ordinance, methods for computing a sanitation compliance rating for retail raw milk are not described. Where a retail raw milk rating is needed, the procedure described in this publication under "raw milk for pasteurization" should be followed.

*Acknowledgments.*—In the development of this revision, advisory assistance was obtained from many State milk sanitation authorities and from all of the Public Health Service regional milk and food consultants. While space does not permit acknowledgment, by name, of all individuals who submitted comments or who participated in the field trial of the revised method, particular credit is due to the following for their substantial contributions: Walter N. Dashiell, Eugene K. Harris, Leroy S. Houser, Harold B. Robinson, and Darold W. Taylor.

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# METHODS OF MAKING SANITATION RATINGS OF MILKSHEDS

## THE PUBLIC HEALTH SERVICE RATING METHOD

The Public Health Service rating method for evaluating the sanitary quality of milk measures the degree to which a milk supply complies with the standards contained in the *Milk Ordinance and Code* recommended by the Public Health Service.[1] These nationally recognized standards—rather than local requirements—are used as a yardstick in order that ratings of communities or individual milksheds may be comparable to each other, both intrastate and interstate. Ratings are expressed in terms of percentage compliance. For example, if all pasteurization plants and their producer dairies, which supply a given community or area with pasteurized milk, comply with all of the Grade A pasteurized milk requirements prescribed in the *Milk Ordinance and Code*, the sanitation compliance rating of the pasteurized milk supply would be 100 percent; whereas, if some of the plants or some of their producer dairies fail to satisfy one or more of these requirements, the pasteurized milk rating would be reduced in proportion to the amount of milk and milk products involved in the violation and to the relative sanitation importance of the violated items. Procedures for collection of data, computation of sanitation compliance ratings for raw milk for pasteurization and the pasteurized milk supply, and computation of the enforcement rating of the health authority responsible for administering milk sanitation regulations are described in the following sections.

### Section I. Collection of Data

Data from which the ratings are determined are obtained from the records on file by the local health authority, and from an evaluation of sanitary practices at producer dairies, pasteurization plants, and receiving stations. It is not necessary, except on very small milksheds, to inspect all plants and producer dairies, since a sufficiently accurate determination of the percentage compliance with sanitation requirements can be obtained by surveying a statistically representative number of producer dairies and pasteurization plants, including their receiving stations.

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[1] The current edition of this publication is *Milk Ordinance and Code—1953 Recommendations of the Public Health Service*, PHS Publication No. 229.



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### *A. Number of Producer Dairies and Pasteurization Plants To Be Surveyed*

The minimum number of producer dairies and pasteurization plants to be included in the survey depends upon the number of each in the milkshed and the accuracy desired. To obtain an accuracy such that the probable error in the individual percentages of compliance with the various items of sanitation will be less than 5 percent, the minimum number of producer dairies or plants, selected at random for inspection during the survey, is taken from the following table.

TABLE 1

*Minimum number of producer dairies, pasteurization plants or inspection areas to be selected at random for inclusion in a survey*

| *Number in milkshed* | *Number to be inspected* | *Number in milkshed* | *Number to be inspected* |
|---|---|---|---|
| 1 to 24 | all | 148 to 167 | 36 |
| 25 to 54 | 25 | 168 to 191 | 37 |
| 55 to 59 | 26 | 192 to 222 | 38 |
| 60 to 64 | 27 | 223 to 262 | 39 |
| 65 to 71 | 28 | 263 to 316 | 40 |
| 72 to 78 | 29 | 317 to 394 | 41 |
| 79 to 86 | 30 | 395 to 514 | 42 |
| 87 to 94 | 31 | 515 to 725 | 43 |
| 95 to 105 | 32 | 726 to 1,192 | 44 |
| 106 to 116 | 33 | 1,193 to 5,000 | 50 |
| 117 to 130 | 34 | 5,001 to 10,000 | 100 |
| 131 to 147 | 35 | 10,001 and over | 200 |

The preceding table is used to determine separately the number of producer dairies, pasteurization plants, and, if applicable, the number of inspection areas to be included in the survey. The probable error is not applicable to small samples. Therefore, if the total number in any of these groups is 25 or less, the entire number must be inspected. The number of receiving stations to be inspected is not determined from the table, since the receiving stations to be included in the survey will depend upon the pasteurization plants selected, as hereinafter explained.

### *B. Random Selection of Producer Dairies and Plants To Be Surveyed*

The individual producer dairies or plants included in the survey must be representative to reflect conditions throughout the milkshed. Therefore, it is important that the selection method exclude elements of preselection and provide a random sample. Methods which are satisfactory for the random selection of either producer dairies or pasteurization plants are given below:

1. The name of each producer dairy or pasteurization plant in the milkshed, as the case may be, is written on a small card, only one

name being placed on each card. These cards are then thoroughly shuffled and the number of producer dairies, or pasteurization plants, to be included in the survey, as determined in table 1, is selected.

2. The selection of producer dairies or of pasteurization plants, as the case may be, is made at intervals from a complete card index, ledger record, or other list. When this method is used, the sequence interval chosen must be such that substantially all the card index, ledger record, or other list is subject to the sampling method. The sequence interval may be determined by dividing the number of producer dairies, or pasteurization plants, by the number needed for the survey. For example: If there are 293 producers in the milk shed, table 1 indicates that 40 will be included in the survey, and the sequence interval in this case would be every seventh producer. The first producer in the sequence is picked at random from the complete index or list in order that chance alone determines the selection of individual dairies.

In milksheds which are divided into several inspection areas or districts under one jurisdiction, the total number of producer dairies required for the survey may be prorated among these areas in approximately the same proportion that the size of each bears to the total number of dairies in the milkshed. If this is done, the producer dairies in each inspection area are selected at random by one of the methods previously described.

In very large milksheds, where the number of inspection areas exceeds 25, it may be impracticable to cover all areas in the survey. In such cases, the minimum number of areas from which producer dairies are to be selected is determined in accordance with table 1. If this procedure is followed, approximately the same number of farms is inspected in each area, and both areas and farms from within areas are selected at random by one of the methods mentioned above.

Receiving stations are considered as an integral part of each pasteurization plant to which milk is shipped. Therefore, all receiving stations supplying the plants selected for survey must also be included. However, only those receiving stations under the routine supervision of the local health authority need be inspected, since consideration of the sanitation compliance status of receiving stations located beyond the limits of routine inspection is provided for in Section III D.

### *C. Recording of Inspection Data*

During a survey, inspection data is recorded on PHS–1783 (SAN), Producer Dairy Inspection Form, and PHS–723–1 (SAN), Pasteurization Plant Inspection Form, the items of which correspond to the items of sanitation in the *Milk Ordinance and Code*. These forms

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may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.

Sanitary conditions are evaluated in terms of the Grade A requirements of the *Milk Ordinance and Code*. When significant violations are noted, the corresponding items on the individual producer dairies or pasteurization plant inspection form are marked (X). The number of gallons of milk and milk products sold daily is needed for computing the rating and is entered in the appropriate place at the top of each sheet. When a deficiency in a pasteurization plant affects only one kind of milk or milk product or a limited portion thereof, the gallonage so affected is recorded for use in the computation described in Section IIB.

### D. Recording of Laboratory and Other Test Data

Records on file by the local health authority are used in determining compliance with bacterial, coliform, phosphatase, and temperature requirements. The acceptance of laboratory data is contingent upon the utilization of standard procedures by the laboratories concerned. Accordingly, it is necessary for the milk sanitation rating officer to determine from the official State laboratory supervisory agency, or by appropriate investigation, that both sampling and laboratory procedures are in substantial conformance with the latest edition of *Standard Methods for the Examination of Dairy Products* recommended by the American Public Health Association and pertinent provisions of appendix E to the *Milk Ordinance and Code*.

Compliance with requirements for bacterial counts, reduction time, coliform counts, and cooling temperatures is based on whether, at the time of the survey, a producer's supply or a plant's products, as the case may be, meet the Grade A requirements of the *Milk Ordinance and Code*. No credit is given for compliance when less than the required number of samples has been examined during the preceding 6-month period. For survey purposes, the preceding 6-month period is considered to be the elapsed period of the month in which the survey is made, and the 6 months immediately preceding, unless the health authority has established specific 6-month (grading) periods, in which case, the last such completed period shall apply. However, producer dairies or pasterization plants which have had a permit for less than 6 months at the time of the survey, and for which the local health authority has not yet examined the required number of samples, are not recorded as being in violation, if either the average of the samples examined or the last individual result is within Grade A limits. This principle is also applicable when a producer dairy or pasteurization plant ships milk into a community only during certain periods. In such cases, no debit is entered for insufficient samples if samples

have been collected at normal rate during periods when milk is being received.

The milk sanitation rating officer may utilize local records in determining compliance with those items of sanitation which require laboratory tests to complete evaluation. Local records of field tests may also be used in lieu of performing such tests during the survey, if the milk sanitation rating officer has satisfied himself as to the competency of the local sanitarian to perform these tests as described in appendixes F and H to the *Milk Ordinance and Code*.

## Section II. Computation of Sanitation Compliance Ratings

Survey results are transferred to the computation form, PHS-842, Report of Milk Sanitation Rating Survey, shown in figures 1 through 4, which may be obtained from the Public Health Service, U.S. Department of Health, Education, and Welfare. The form is sufficiently flexible to permit various combinations of pages to be used for reporting surveys of both large and small communities, and of individual milksheds.

### *A. Rating of Raw Milk for Pasteurization*[2]

The identity of each producer dairy included in the survey and the total gallons of milk sold daily are entered in the first and second columns, respectively, on page 3 of the form headed "Status of Raw Milk for Pasteurization" (fig. 3). Violation of items or subitems are indicated by a cross (X) in the appropriate following columns. The sum of the weights of all items and subitems found violated at each producer dairy is entered in the column headed "Total debits." This figure is then multiplied by the number of gallons sold daily and the result entered in the column headed "Gallons sold daily × total debits." When all entries have been made, the figures entered in this column are totaled as are the number of gallons sold daily by all the producer dairies surveyed. The sanitation compliance rating is derived from the following formula:

$$\text{Rating} = 100 - \frac{\text{Total of last column}}{\text{Total gallons sold daily}}$$

This rating figure is entered in the appropriate space on the upper right-hand corner of the page. It is also entered in the "Summary of Survey Results" on page 1 of the report form (fig. 1) unless imported supplies are to be combined with the local rating in accordance with the procedure described in Section IID1. In such cases, the combined rating is entered in this space.

[2] Where a rating for retail raw milk is needed, the procedures described for raw milk for pasteurization should be followed with such changes as are indicated on the computation form and inspection form PHS–1780 (SAN) which is used to record inspection data.

Provision is also made on the form for computing the percentage of producer dairies violating individual items or subitems. The number of producer dairies violating each item is totaled and the percentage violating is computed by dividing this number by the total number of producer dairies included in the survey and then multiplied by 100.[3]

### *B. Rating of Pasteurization Plants*

For pasteurization plants, the name of the plant and the total gallons of milk and milk products sold daily are entered in the first and second columns, respectively, on page 5 of the form headed "Status of Pasteurization Plants" (fig. 4). If a plant's daily sales vary, the daily average for the week preceding the survey is used. Violations of items or subitems are indicated by a cross (X) in the appropriate following columns. When only one kind of milk or milk product is involved in a given violation, only the number of gallons of the kind of milk or milk product involved is debited. In such cases, entries are made on separate lines below the name of the plant concerned. The name of the product is entered in the first column together with a parenthetic entry of the number of gallons in violation. Care must be taken not to enter the gallonage in the second column where it would again be included in the total gallons sold daily (see entry (1), fig. 4).

For receiving stations under the routine supervision of the health authority being surveyed, the name of the station is entered in the first column, together with a parenthetic entry of the number of gallons shipped daily by the station to plants included in the survey. No entry is made in the second column (see entry (2), fig. 4). If the gallons shipped daily by a receiving station to a pasteurization plant vary, the gallonage recorded is the daily average of the shipments for the week preceding the survey. Violations of items or subitems are indicated by a cross (X) in the appropriate following columns. To facilitate the survey computations, a receiving station's entries follow the entries for the pasteurization plant which it supplies. Where an item of sanitation violated by a receiving station has also been violated by the pasteurization plant, the receiving station entry is circled (Ⓧ) to avoid duplication of penalties as hereinafter explained (see entry (2), fig. 4).

In cases where a receiving station receives milk from one or more feeder stations and a violation in a feeder station is involved, the feeder station entries follow the entries for the receiving station it supplies. The procedure stated above for receiving station entries applies to feeder station entries. Since it may be difficult to determine

[3] If the item weight is used instead of a cross (X) to indicate violations, care should be taken that the item total shows the number of producer dairies violating and not the total of the weight involved.

the exact gallonage feeder stations ship to the pasteurization plant, the lesser of the following is used: (1) the gallons of milk shipped by the feeder station to the receiving station, or (2) the gallons of milk shipped by the receiving station to the pasteurization plant.

The computation procedure for pasteurization plants is similar to that for producer dairies, except that a modified procedure is necessary in computing debits for violations involving only one kind of milk or milk product, and for violations involving receiving stations. For such violations, the entry in the "Total debits" column is multiplied by the actual number of gallons involved as entered parenthetically in column 1 rather than by the entire plant output from column 2, and this figure is entered in the column headed "Gallons sold daily × total debits." In making the computations for pasteurization plants, receiving station violations circled (X) are not included; otherwise a duplication of penalty would result from debiting the same item at both pasteurization plant and receiving stations (see entry (2), fig. 4). The formula for determining the sanitation compliance rating for the pasteurization plants is as follows:

$$\text{Rating} = 100 - \frac{\text{Total of last column}}{\text{Total gallons sold daily}}$$

This rating figure is entered in the appropriate space on the upper right-hand corner of the page. It is also entered in the "Summary of Survey Results" on page 1 of the report form (fig. 1) unless imported supplies are to be combined with the local rating in accordance with the procedure described in Section IID2. In such cases, the combined rating is entered in this space.

Provision is also made on the form for computing the percentage of plants violating individual items or subitems. The same procedure as described for producer dairies is followed except that the pasteurization plant, and all receiving stations shipping to such plant, are treated as a unit. Accordingly, multiple violations of the same item or subitem by a plant and its receiving stations, or by two or more receiving stations shipping milk to a given plant, are charged as a single violation.[4]

### *C. Rating of Pasteurized Milk and Milk Products*

The sanitation compliance rating of pasteurized milk and milk products is the simple average of the sanitation compliance ratings of raw milk for pasteurization and of pasteurization plants. When the raw milk for pasteurization ratings and/or the pasteurization plant ratings are combined with ratings of imported supplies, in accordance with conditions and procedures described in Section IID,

[4] See footnote 3, page 6.

the combined ratings rather than the local ratings are used in the computation of the pasteurized milk and milk products rating. This figure is entered in the "Summary of Survey Results" on page 1 of the report form (fig. 1).

### *D. Procedure To Be Followed When Milk and Milk Products Are Received From Beyond the Limits of Routine Inspection of the Health Authority Being Surveyed*

The basic provisions covering the acceptance of milk and milk products from points beyond the limits of routine inspection of the health authority being surveyed are contained in Section 11 of the *Milk Ordinance and Code*. This section provides that, subject to laboratory tests upon arrival, the health officer should approve, without his inspection, supplies of milk or milk products from any area or shipper not under his routine inspection when: (1) they are produced and processed under regulations substantially equivalent to those contained in the *Milk Ordinance and Code;* (2) they are under routine official supervision; and (3) they have been awarded by the milk sanitation authority of the State of origin, a milk sanitation rating equal to that of the local supply or, if lower than that of the local supply, equal to 90 percent or more, on the basis of the Public Health Service rating method. Milk and milk products being received in accordance with these provisions are not included in the computation of local sanitation compliance ratings, provided, the current rating of the imported supply is not more than 2 years old. The name, rating, and date of rating, for each current source of milk being received at the time of the survey, are entered as a matter of record on page 5 of the form headed "Status of Pasteurization Plants," as should a parenthetic entry of the gallonage involved (see entry (3), fig. 4).[5]

If a supply of either raw milk for pasteurization or pasteurized milk and milk products, complying with the provisions enumerated above, is in violation of bacterial or cooling requirements upon arrival, appropriate debits are made against the rating of the receiving station or plant shipping the milk, and the adjusted rating is combined with the local plant rating by the procedure described in D2 of this section (see entry (4), fig. 4). For imported supplies received on a routine basis, no credit is given when less than the required number of samples has been examined during the preceding 6-month period. However, when supplies are imported on an occasional basis, or only during limited periods of shortage, credit is given if either

[5] In accordance with recommendations of the Association of State and Territorial Health Officers and the National Conference on Interstate Milk Shipments, the Public Health Service issues periodically for the use of health authorities in milk importing areas a list of interstate milk shippers and their sanitation compliance ratings as reported by certified State milk sanitation rating officers.

the average, or the last individual result, of samples examined during the preceding 6 months is within Grade A limits (see Section ID).

When the milk sanitation rating of the milk or milk products being received is lower than the last rating awarded the local supply and does not equal 90 percent or more, it is necessary to consider the status of such supplies in the computation of the local compliance ratings. If ratings less than 2 years old are available, they are combined with the ratings of the local supply in accordance with the procedures outlined below. When ratings less than 2 years old are not available, it will be necessary to obtain current ratings on the imported supplies before the local sanitation compliance ratings can be computed.

*1. Procedure for combining raw milk for pasteurization ratings.*—The raw milk for pasteurization compliance ratings of shipped-in supplies, regardless of whether the milk is imported as raw milk or as pasteurized milk and milk products, and the rating of the locally supervised raw milk for pasteurization are weighted by decimals representing, respectively, the shipped-in and the remaining milk volumes which together make up the total local sales of pasteurized milk. For example, if 10,000 gallons of pasteurized milk and milk products are sold daily in a community, of which 2,000 gallons are shipped in as raw milk for pasteurization and 1,000 gallons as pasteurized milk, the weights used are 0.7 for the local supply and 0.2 and 0.1, respectively, for the shipped-in supplies. The computation of the combined rating for local and shipped-in supplies is recorded on page 3 of the form, "Status of Raw Milk for Pasteurization" (fig. 3). The identity of each shipped-in supply included in the computation is shown and the date of current rating is recorded in the "Remarks" column.

Raw milk for pasteurization ratings used in the foregoing weighting computations may be either (1) the overall raw milk for pasteurization rating of the shipping community, or (2) the raw milk for pasteurization rating of the producers supplying the specific receiving station or stations from which the raw milk is shipped to the receiving community. However, in instances where both types of information are available, the most recent rating is used. If both types of ratings are derived from surveys made at approximately the same time, then the rating of the receiving station supply is used, since it provides more specific information. The type of rating for each shipped-in supply is also noted in the "Remarks" column.

*2. Procedure for combining pasteurization plant and receiving station ratings.*—The names of pasteurization plants shipping pasteurized milk or milk products for sale within the community and the gallons of milk and milk products sold daily are entered in the first and second

columns, respectively, on page 5 of the form headed "Status of Pasteurization Plants" (fig. 4). The sanitation compliance rating of the pasteurization plant shipping the milk and milk product is subtracted from 100 and the difference entered in the "Total debits" column. This difference is then multiplied by the number of gallons sold in the community being rated and entered in the column headed "Gallons sold daily × total debits" (see entry (5), fig. 4).

The names of receiving stations shipping into the community from beyond the limits of routine inspection are also entered in the first column below the name of the plant which they supply, but the gallons of milk and milk products supplied daily is entered parenthetically in the same manner as for local receiving stations. As will be noted in entry (6), figure 4, the gallonage is not recorded in the second column, since this volume is already accounted for in the local pasteurization plant figures. If the rating of the receiving station is equal to, or higher than, that of the local plant it supplies, the local plant rating is considered as being inclusive of the receiving station violations; therefore, no entry is made in the "Total debits" column (see entry (6), fig. 4). However, if the receiving station rating is lower, it is subtracted from the rating of the local pasteurization plant which it supplies and the difference is entered in the "Total debits" column. This difference is then multiplied by the number of gallons shipped daily by the receiving station to the pasteurization plant and entered in the column headed "Gallons sold daily × total debits" (see entry (7), fig. 4).

If, upon receipt, an imported supply of raw milk for pasteurization violates bacterial or cooling requirements, or if an inadequate number of samples have been examined by the health authority, the bacterial count and/or cooling items, as the case may be, are debited against the rating of the receiving station shipping the milk before combining the ratings in accordance with the methods described above. In cases where an imported supply of pasteurized milk or milk products violates bacterial or cooling requirements upon arrival, or an inadequate number of samples have been examined by the local health authority, the bacterial count, coliform count, and/or cooling items, as the case may be, are debited, and the shipping plant's rating adjusted before making the total debit entry.

### Section III. Computation of Enforcement Rating

The "Report of Enforcement Methods" on page 2 of the form (fig. 2) provides a means of measuring the degree to which enforcement provisions of the *Milk Ordinance and Code* are being applied. It serves to delineate specific areas where a milk sanitation program needs strengthening. The rating method provides for separate appraisals

of these provisions as they are applied to producer dairies and pasteurization plants.[6] The community enforcement rating is derived by combining these appraisals with an appraisal of other milk sanitation control practices for which the health authority is responsible.

Items to be used in deriving the enforcement rating are listed in separate appraisal schedules, parts I–III of the form. Sections of the *Milk Ordinance and Code* and appendixes pertinent to each item are referenced in the second column of each schedule. Appraisal of items is based on the milk sanitation rating officer's observations during the survey and his review of the local health authority's records for the lesser of the following periods: (1) the period since the last survey, or (2) the 2 years preceding the date of the current survey.

When an item requires separate action on the part of the health authority with respect to each producer dairy or pasteurization plant in the milkshed, compliance is based on the proportion of producer dairies or plants, as the case may be, for which local records show the item to have been satisfied. If the item requires more than one test or determination, then compliance is also based on the proportion of tests or determinations which, according to local records, were made at the required frequency. For example: If in a milk sanitation rating survey five pasteurization plants are inspected, and records indicate all necessary pasteurization plant tests to have been completed at required frequency in three plants but only half of the tests to have been completed in two plants, the compliance would be $\frac{3+\frac{1}{2}+\frac{1}{2}}{5}$ or 80 percent. A similar procedure is used to appraise compliance with items 6 and 7 of part III which pertain to the sale, service, and refrigeration of milk and milk products in retail outlets. For these, compliance is based on the percentage of food establishments in which satisfactory practices are followed. This estimate may be based on local records or by observation in several restaurants, grocery stores, etc., during the course of the survey. Items to be evaluated in accordance with this procedure have the fourth, fifth, and sixth columns of the schedule left blank.

When an item requires an action by the health authority which affects the entire control program, quantitative estimates of compliance by the procedure described above are not applicable. These items have the fourth, fifth, and sixth columns of the schedule blocked out, and the full weight of the item is debited or credited, depending upon whether the local milk sanitation program is satisfying the pertinent provisions of the *Milk Ordinance and Code*. In appraising these items, the milk sanitation rating officer should base his judgment

[6] In communities where the sale of retail raw milk is permitted, producer-distributors are included with producer dairies in computing the item credited.

on the attainment of objectives toward which the *Milk Ordinance and Code* provisions are directed and not on occasional circumstances or insignificant deviations in procedure.

The procedure for computing the community enforcement rating is shown on the form. As will be noted, the percent complying computed for each item in the schedule is multiplied by the weight of the item and entered in the column headed "Credit." The credit columns in part I and part II are then totaled to provide separate appraisals of the application of enforcement methods to producer dairies and pasteurization plants, respectively. Combination, by the procedure shown on the form, of these credit totals with the credits awarded items in part III provides the community enforcement rating. This figure is entered in the space provided on the upper right-hand corner of page 2 and in the "Summary of Survey Results" on page 1 of the form.

### Section IV. Preparation of Rating Officer's Report

Ratings made by the methods described herein measure the degree to which the milk supply and enforcement practices of a community conform to the standards and procedures contained in the *Milk Ordinance and Code*. Space is provided on page 1 of the report form (fig. 1) for presenting a summary of survey results and recommendations of the milk sanitation rating officer.

#### *A. Summary of Survey Results*

Sanitation compliance ratings computed in accordance with procedures previously described and other data pertinent to the milk supply are entered in the "Summary of Survey Results." When a raw milk for pasteurization rating or a pasteurization plant rating has been combined with ratings of imported supplies in accordance with the conditions and procedures of Section IID, the combined rating rather than the rating of the local supply is entered in the summary.

#### *B. Supplementary Narrative Report*

In the course of conducting a survey and computing ratings, additional facts may become apparent which, if presented, would be of value to the health authority in orienting the local milk sanitation program along lines of greater effectiveness. Milk sanitation rating officers are urged to prepare a supplementary narrative report of their survey findings. This report should include:

1. A statement as to the general status of the milk sanitation program.

2. Discussion of needs for specific program emphasis as indicated by the compliance levels of sanitation items and enforcement practices.

or by the variation in compliance levels of individual plants and producers.

3. A statement as to the adequacy of existing milk sanitation regulations.

4. An appraisal of the adequacy of funds, personnel, and facilities to carry out both the inspection and laboratory phases of the program.

5. Recommendation to the health authority of specific measures for program improvement, including the training of local personnel, if needed.

### *C. Recommendations of Milk Sanitation Rating Officer*

A summary of the narrative report including the specific measures recommended for program improvement is entered on page 1 of the report form under the heading, "Recommendations of Milk Sanitation Rating Officer." The full report should be discussed in detail with appropriate officials of the community which has been rated. Such discussions contribute to better understanding of the problems involved and provide local health authorities with an opportunity to discuss means of implementing the milk sanitation rating officer's recommendations.

## PUBLICATION OF RATINGS

A pasteurized milk and milk products sanitation compliance rating of 90 percent or more, determined by the methods described, means that the pasteurized milk and milk products sold in a community are as safe as reasonably strict enforcement of milk sanitation regulations will make them. Therefore, citizens who limit their purchases of milk to Grade A pasteurized milk secured from communities with 90 percent ratings may, for all practical purposes, ignore the danger of milk-borne disease. Health authorities of communities receiving such ratings are urged to apprise the public of the sanitary status of the local milk supply, and State health authorities are urged to publish through appropriate channels periodic lists of communities whose milk supplies receive ratings of 90 percent or more.

In order to encourage communities which have adopted the *Milk Ordinance and Code* to maintain a high level of compliance with its provisions, the Public Health Service publishes semiannually in Public Health Reports the "Milk Sanitation Honor Roll." The "honor roll" contains the names of communities whose milk supplies have been awarded ratings of 90 percent or more by their State milk sanitation rating authority. Rules for inclusion of a community are published once each year.[7] States are urged to submit the names and

[7] See Public Health Reports, page 277, vol. 74, No. 3, March 1959.

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milk-shed ratings of all communities which are eligible for inclusion on the "honor roll."

Milk sanitation ratings are also used by many State and local health authorities as a basis for the acceptance of milk from beyond the limits of their routine inspection. Because large volumes of fluid milk are shipped interstate, the Public Health Service cooperates with the States in the conduct of a voluntary program for the certification of interstate milk shippers. As a part of this program, milk sanitation ratings submitted by the States are published quarterly by the Service under the title *Sanitation Compliance Ratings of Interstate Milk Shippers*.[8] Rules governing inclusion of shippers and their ratings are based on agreements adopted by the National Conference on Interstate Milk Shipments, and appear in the covering memorandum which accompanies each issue of the list.

[8] This publication may be obtained from the Milk and Food Program, Division of Engineering Services, BSS, Public Health Service, U.S. Department of Health, Education, and Welfare, Washington 25, D.C.

PHS-543 Rev. 6-58
DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE

# REPORT OF MILK SANITATION RATING SURVEY

OF An/town, U.S.A. AS OF August 25-29, 1958.
(Community) (State)

| Population | Health Officer | Milk Sanitarian | Ordinance in Effect | Date Adopted |
|---|---|---|---|---|
| 39,400 | Dr. C. L. Jones | William Green | PHS Milk Ordinance and Code, 1939 edition | May 12, 1946. |

| Surveyed by | Title | Agency | Date Certified by USPHS | Survey based on |
|---|---|---|---|---|
| L. L. Scott | State Milk Sanitarian | State Health Department | September 11, 1957. | 1953 Edition of USPHS Milk Ordinance and Code |

## SUMMARY OF SURVEY RESULTS

| | | | |
|---|---|---|---|
| Number of producer dairies | 16 | Total gallons of pasteurized and retail raw milk and milk products sold daily in community | 4,150 |
| Number of producer dairies inspected | 16 | Percentage of milk and milk products pasteurized | 100% |
| Number of pasteurization plants | 3 | Sanitation compliance rating of raw milk for pasteurization | 89.5% |
| Number of pasteurization plants inspected | 3 | Sanitation compliance rating of pasteurization plants | 90.5% |
| Number of retail raw produce distributors | 0 | Sanitation compliance rating of pasteurized milk and milk products* | 90.0% |
| Number of retail raw produce distributors inspected | 0 | Sanitation compliance rating of retail raw milk and milk products | - |
| Total gallons of pasteurized milk and milk products sold daily in community | 4,150 | Community enforcement rating | 64.3% |
| Total gallons of retail raw milk and milk products sold daily in community | 0 | | |

## RECOMMENDATIONS OF MILK SANITATION RATING OFFICER

The compliance ratings for both raw milk for pasteurization and pasteurized milk are below those reported on the last survey. This, together with deficiencies noted in the enforcement rating and observations made during the survey, indicates a need to expend more effort on certain aspects of the milk sanitation program. A detailed discussion of program areas needing further improvement is presented in a supplementary narrative report which includes the following specific recommendations:

(a) Particular emphasis should be directed toward the following items of sanitation which were violated by 25 percent of the producer dairies: 4a, 4b, 5, 10, 13, and 21.

(b) The milk sanitarian should receive further training in the technique of testing HTST pasteurization equipment, the control of CIP installations, and the proper design and installation of home septic tanks and field absorption systems.

(c) Revise existing milk regulations to bring them in accord with the 1953 edition of the Milk Ordinance and Code recommended by the Public Health Service.

(d) Part of the milk sanitarian's general sanitation work load should be assigned to another member of the staff in order that the milk sanitarian can devote more time to the milk program.

*Sanitation compliance rating of pasteurized milk and milk products is the simple average of the sanitation compliance ratings of raw milk for pasteurization and of the pasteurization plants.

Fig. 1.

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# REPORT OF ENFORCEMENT METHODS

Community: Anytown, U.S.A. — Community Enforcement Rating: 84.3 %

Date of Survey: August 25-29, 1958

## PRODUCER DAIRIES* PART I

| No. | Ord. Sec. | Item | Standard Required | Standard Obtaining | Percent Complying | Weight | Credit |
|---|---|---|---|---|---|---|---|
| 1 | 3 | All producers hold valid permits | 16 | 16 | 100 | 5 | 5 |
| 2 | 5 | All producer dairies inspected or least once every six months | 16 | 14 | 87.5 | 15 | 13.1 |
| 3 | 5 | Inspection sheets posted | 16 | 11 | 68.8 | 5 | 3.4 |
| 4 | 7<br>15 | Requirements interpreted in accordance with USPHS Milk Code as indicated by last inspection | 16 | 12 | 75.0 | 10 | 7.5 |
| 5 | 7 | Abnormal disease test records checked | 16 | 16 | 100 | 10 | 10 |
| 6 | 7 | Water samples taken as required and reports on file | 16 | 15 | 93.8 | 5 | 4.7 |
| 7 | 7<br>App I | Bacteria de tests made as required | 16 | 14 | 87.5 | 5 | 4.4 |
| 8 | 6 | At least four samples collected from each producer supply every six months and necessary laboratory examinations made | 16 | 16 | 100 | 10 | 10 |
| 9 | 6<br>App I | Samples collected and cooling temperatures taken by methods prescribed in USPHS Milk Code | | | | 5 | 0 |
| 10 | 9 | Laboratory procedure conform to APHA Standard Methods | | | | 5 | 5 |
| 11 | 5<br>5-5<br>6-9 | Permit suspension (degrading), permit reinstatement (supplementary regrading), and/or court action taken as required | 16 | 12 | 75.0 | 15 | 11.3 |
| 12 | | Records systematically kept and currently posted | 16 | 13 | 81.3 | 10 | 8.1 |
| | | TOTAL CREDIT Part I | | | | | 82.5 |

**REMARKS**

Item 4. Septic tank absorption fields not properly installed.

Item 7. Local sanitarian did not have equipment to test the specific bactericide being used on two producer dairies, although use of this bactericide was approved by the health officer.

Item 9. Cooling temperatures not being taken.

Item 11. Records on 4 farms indicate several consecutive violations of the same requirement.

*If retail raw milk is sold in the community, include retail raw producer distributors with the producer dairies in computing credits in Part I

## PASTEURIZATION PLANTS PART II

| No. | Ord. Sec. | Item | Standard Required | Standard Obtaining | Percent Complying | Weight | Credit |
|---|---|---|---|---|---|---|---|
| 1 | 3 | All plants hold valid permits | 3 | 3 | 100 | 5 | 5 |
| 2 | 5 | All pasteurization plants inspected at least once every six months | 3 | 3 | 100 | 15 | 15 |
| 3 | 5 | Inspection sheets posted | 3 | 3 | 100 | 5 | 5 |
| 4 | 7<br>15 | Requirements interpreted in accordance with USPHS Milk Code as indicated by last inspection | 3 | 3 | 100 | 10 | 10 |
| 5 | 7<br>App II | Pasteurization equipment tested at required frequency | 3 | 1 | 33.3 | 10 | 3.3 |
| 6 | 7 | Water samples taken if required and reports on file | 3 | 3 | 100 | 5 | 5 |
| 7 | 7<br>App I | Bacteriside sanitizer solution and swab tests made as required | 3 | 1 | 33.3 | 5 | 1.7 |
| 8 | 6 | Samples of each plant's milk and milk products collected at required frequency and necessary laboratory examinations made | 3 | 3 | 100 | 10 | 10 |
| 9 | 6<br>App I | Samples collected and cooling temperatures taken by methods prescribed in USPHS Milk Code | | | | 5 | 5 |
| 10 | 6<br>9<br>3-3<br>6-9 | Laboratory procedures conform to APHA Standard Methods | | | | 5 | 5 |
| 11 | | Permit suspension (degrading), permit reinstatement (supplementary regrading), and/or court actions taken as required | 3 | 3 | 100 | 15 | 15 |
| 12 | | Records systematically kept and currently posted | 3 | 2 | 66.3 | 10 | 6.3 |
| | | TOTAL CREDIT Part II | | | | | 84.3 |

**REMARKS**

Item 5. Records indicate that only 25% of tests were performed in 2 plants and 50% in the other.

Item 7. No record of tests on sanitizer solutions; or swab tests on CIP systems.

## COMMUNITY RATING PART III

| No. | Ord. Sec. | Item | Standard Required | Standard Obtaining | Percent Complying | Weight | Credit |
|---|---|---|---|---|---|---|---|
| 1 | | Same total credit from Part I under percent complying | | | 82.5 | 40 | 33 |
| 2 | | Same total credit from Part II under percent complying | | | 84.3 | 40 | 33.7 |
| 3 | 4 | All milk and milk products properly labeled | 3 | 3 | 100 | 7 | 7 |
| 4 | 3-8 | Sale of milk and milk products restricted to grades permitted by local ordinance | | | | 4 | 4 |
| 5 | 7 | Grades currently determined and, if required, announced at least once every six months | | | | 4 | 4 |
| 6 | 10 | Milk and fluid milk products served or sold in retail eating establishments in original containers or from approved dispensers except as permitted by USPHS Milk Code | 40 | 40 | 100 | 3 | 3 |
| 7 | 10 | Milk and milk products maintained at 50° F. or less in retail outlets | 40 | 40 | 100 | 3 | 3 |
| 8 | 11 | Provisions of USPHS Milk Code followed when milk and milk products are imported | 4 | 4 | | 4 | 0 |
| | | COMMUNITY ENFORCEMENT RATING | | | | | 84.7 |

**REMARKS**

A review of health department records indicates compliance with items 6 and 7.

Item 8. The rating of the milk and milk products being imported was less than that of the local supply at the time of importation and was below 90%.

Last rating of Anytown

Sanitation compliance rating of raw milk for pasteurization: 92.28

Sanitation compliance rating of pasteurization plants: 94.0%

Date of rating, 8/21/56.

Fig. 2.

Page 3

## STATUS OF RAW MILK FOR PASTEURIZATION

Community Anytown, U.S.A.
Date of Survey August 25-29, 1958.

Sanitation Compliance Rating * 89.5 %

(NOTE—If any item or part of an item is violated indicate by (X) under that item)

| NAME OF PRODUCER DAIRY | GALLONS SOLD DAILY | ITEMS OF SANITATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | GALLONS SOLD DAILY X TOTAL POINTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1a | 1 | 2 | 3 | 4a | 4 | 5 | 5a | 6 | 7 | 8a | 8 | 9 | 9a | 9b | 9c | 9d | 9e | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | | |
| | | Grade A only | Udders | Flanks and abdomen | Tail switches | Hips and rumps | Bedding and housing | Cleanliness | Cleaning compounds | Flies | Fly control methods | Lighting and ventilation | Screening | Construction and repair | Floors | Drainage | Overhead protection | Cleanliness | Lighting | Ventilation | Toilet | Water supply | Cleanliness of utensils | Bacteria standards | Cooling | Sterilization | Storage | Handling | Water supply | Floors | Walls and ceilings | Lighting | Ventilation | Cleanliness | Miscellaneous | Number cows | Milk handling | |
| | | 15 | 1 | 1 | 4a | 4 | 3 | 3 | 2 | 1 | 1 | 0 | 0 | 2 | 1 | 1 | 4 | 2 | 2 | 4 | 3 | 2 | 1 | 2 | 1 | 2 | 1 | 7 | 1 | 1 | 1 | 0 | | | |
| Goodman, Robt. | 90 | | X | | | | X | | | | | | | | | | X | | | | | | | | | | | | | | | | | 7 | 630 | |
| Locke, E. | 100 | | | | X | X | | | | | | | | | | | X | | | | | | | | | | | | | | | | | 8 | 800 | |
| Ogden, Frank | 65 | | | | | | | X | X | | | | | | | | | | | | X | | | | | | | | X | | | | | 5 | 325 | |
| Schick, J. R. | 350 | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | 5 | 1,750 | Milking machine air hose not clean. |
| Slager, L. L. | 45 | | | | X | | | | | | | | | | | | X | | | | | | | | | | | X | | | X | | | 9 | 405 | Milking time inspection. |
| Stewart, Jim | 35 | | | | | | | | | | | | | | | | | | | X | X | | | | | | | | | | | | | | 10 | 350 | |
| White, R. C. | 40 | | | | | X | | X | | | | | | | | | | | | | | | | | | | | | | | X | | | | 4 | 160 | |
| Irwin, C. C. | 110 | | | | | | | | | X | | | | | | | | | | X | X | | | | | | | | | | | | X | | 15 | 1,650 | |
| Pitts, T. | 50 | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | X | | | 7 | 350 | |
| Lind, S. O. | 240 | | | | X | | | | | | | | | | X | X | | | | | | | | | | | X | | X | | X | | | | 16 | 3,840 | Milking time inspection. |
| Ring, F. C. | 150 | | | | | | | | | | | | | | | | | | | | | | | | | | X | X | X | | X | X | | | 9 | 1,350 | Milking time inspection. |
| Jones, L. | 180 | | | X | | | X | | X | | | | | | | | X | | | | | | | | | | | | | | | | | | 8 | 1,440 | |
| Hawkins, C. T. | 70 | | | | X | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | 6 | 420 | |
| McCurdy, Mr. | 100 | | | X | X | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | | 6 | 600 | |
| Baines, O. H. | 100 | | | | | | | | | | | | | | | | | | | X | X | X | X | | | | | | | | | | | | 16 | 1,600 | |
| Gill, W. T. | 50 | | | | | | X | X | | | | | | | X | | X | | | | | | | | | | | | | | | | | | 10 | 500 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

## STATUS OF PASTEURIZATION PLANTS

INCLUDING RECEIVING STATIONS

Page 5

Community: Anytown, U.S.A.

Date of Survey: August 25-29, 1958.

(NOTE—If any item or part of an item is violated indicate by (X) under that item. When violations involve individual products or a receiving station, enter name of product or receiving station together with parenthetic entry of gallons involved on separate line under "Name of Plant".)

Sanitation Compliance Rating* 90.5 %

| NAME OF PLANT | GALLONS SOLD DAILY | ITEMS OF SANITATION (Item numbers) | GALLONS SOLD DAILY X TOTAL UNITS | REMARKS |
|---|---|---|---|---|
| | | 1 2 3 4a 4b 5 6 7 8 9 10 11 12a 12b 13 14 15 16a1 16a2 16a3 16a4 16a5 16a6 16a7 16a8 16a9 16b 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 | |
|---|---|---|---|---|
| Sanitary Dairy | 2,100 | x x | 3 | 6,300 | |
| (1) Buttermilk (200) | | x | 2 | 400 | |
| (2) SanitaryRec.Sta. (600) | | (2) x (2) x | 3 | 1,800 | |
| (3) Bauer Rec. Sta. (800) Buddville | | | | | Individual rating, SHD, 4/5/57<br>Receiving station - 93.0%<br>Raw-milk-for-past. - 91.4% |
| Chestnut Hill Dairy | 500 | x x x x | 8 | 4,000 | |
| (4) Fox Rec. Sta. (500) Centerville | | x | 17# | 8,500 | Individual rating, SHD, 10/9/57<br>Receiving station - 90.0%<br>Adjusted rating - 75.0%<br>Raw-milk-for-past. - 90.3% |
| (5) Excel Dairy Products, Inc. Anothertown | 150 | | 12 | 1,800 | Individual rating, SHD, 5/2/57<br>Pasteurization plant - 88.0%<br>Raw-milk-for-past. - 85.0% |
| Grassland Farms Dairy | 1,400 | x x x x | 11 | 15,400 | |
| (6) Doe's Rec. Sta. (400) Berryville | | | | | Individual rating, SHD, 6/12/57<br>Receiving station - 97.0%<br>Raw-milk-for-past. - 92.3% |
| (7) Shortskirted Sta.(600) Jamestown | | | 2 | 1,200 | Individual rating, SHD, 7/8/58<br>Receiving station - 87.0%<br>Raw-milk-for-past. - 82.0% |
| | | | | | 100 - 39,400/1,400 = 90.5 |
| TOTALS | 4,150 | 1 1 1 0 1 0 1 0 1 0 1 0 0 0 0 1 1 0 0 0 1 0 0 0 0 1 0 0 0 1 0 0 1 0 0 1 0 | 39,400 | |
| PERCENT OF PLANTS VIOLATING | | 33 33 33 0 33 0 33 0 33 0 33 0 0 0 0 33 33 0 0 0 33 0 0 0 0 33 0 0 0 33 0 0 33 0 0 33 0 | | |

*Sanitation compliance rating = 100 − (Total of item numbers violated / Total gallons sold daily)

**Total debits for each pasteurization plant is the sum of the weights of the items violated.

#Debit = 92 (plant rating) − 75 (adjusted receiving station rating) = 17. (See Section II D 2.)
Fig. 6.

Weights listed above total more than 100 since the same product would not be subject to 16a(1) and 16a(2) nor to both 16b and 16c violations

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